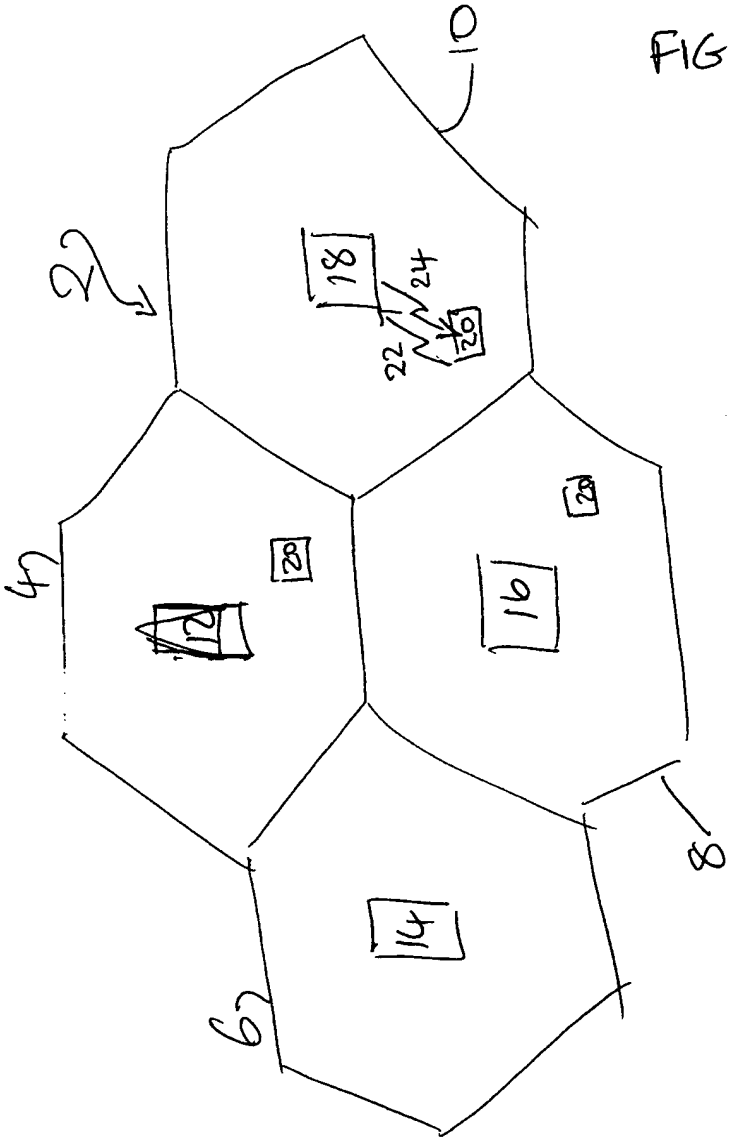


FIG 1

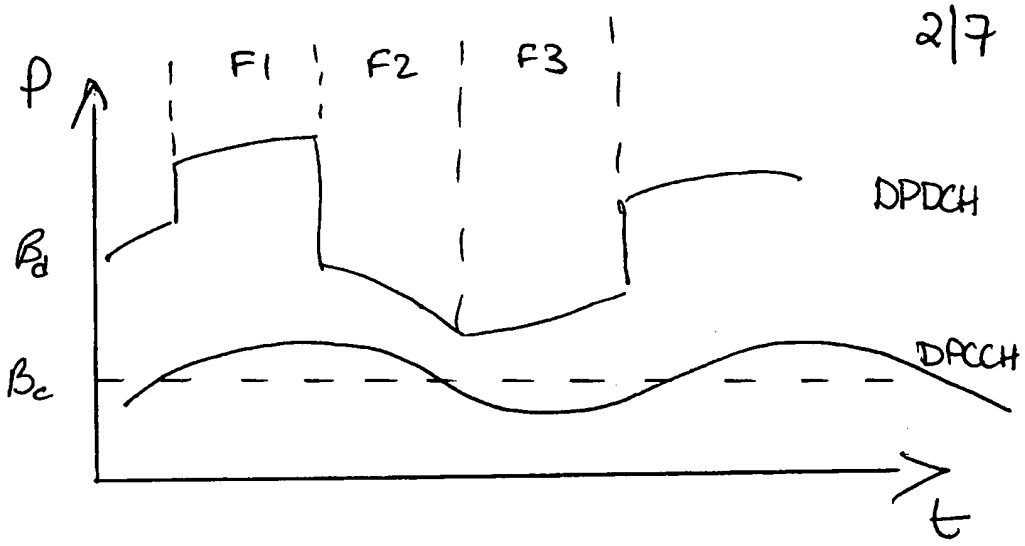


FIG 2

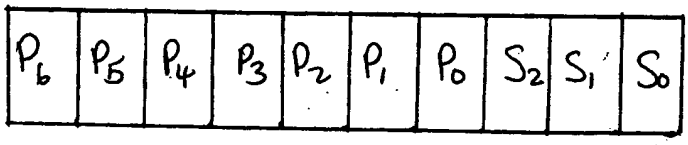


FIG 3

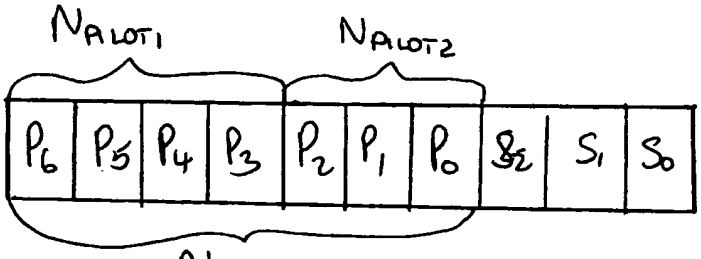


FIG 4

Slot Format #i	Channel bit Rate (kbps)	CHANNEL SYMBOL ... Rate (ksps)	SF	Bits/ Frame	Bits/ Slot	N_{pilot1}	N_{pilot2}	N_{TPC}	N_{TFCI}	N_{FBI}	Transmitted slots per radio frame
0	15	15	256	150	10	6	0	2	2	0	15
0A	15	15	256	150	10	5	0	2	3	0	10-14
0B	15	15	256	150	10	4	0	2	4	0	8-9
1	15	15	256	150	10	8	0	2	0	0	8-15
2	15	15	256	150	10	5	0	2	2	1	15
2A	15	15	256	150	10	4	0	2	3	1	10-14
2B	15	15	256	150	10	3	0	2	4	1	8-9
3	15	15	256	150	10	7	0	2	0	1	8-15
4	15	15	256	150	10	6	0	2	0	2	8-15
5	15	15	256	150	10	5	0	1	2	2	15
5A	15	15	256	150	10	4	0	1	3	2	10-14
5B	15	15	256	150	10	3	0	1	4	2	8-9
6	15	15	256	150	10	4	3	1	2	0	15

FIG5

Power control metric $SIR_{measured}$	Power control commands
$Threshold_{pwr_cmd\ 1} < SIR_{measured}$	00
$Threshold_{pwr_cmd\ 1} < SIR_{measured} \leq Threshold_{pwr_cmd\ 3}$	01
$Threshold_{pwr_cmd\ 1} < SIR_{measured} < Threshold_{pwr_cmd\ 2}$	11
$SIR_{measured} \leq Threshold_{pwr_cmd\ 1}$	10

FIG11

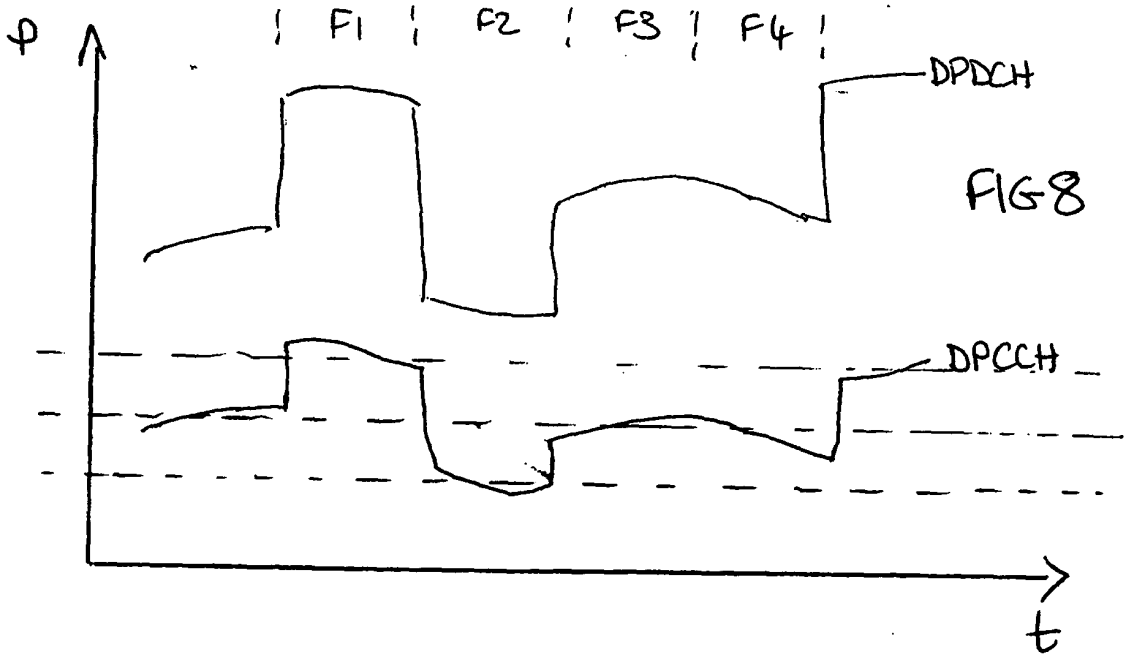


FIG8

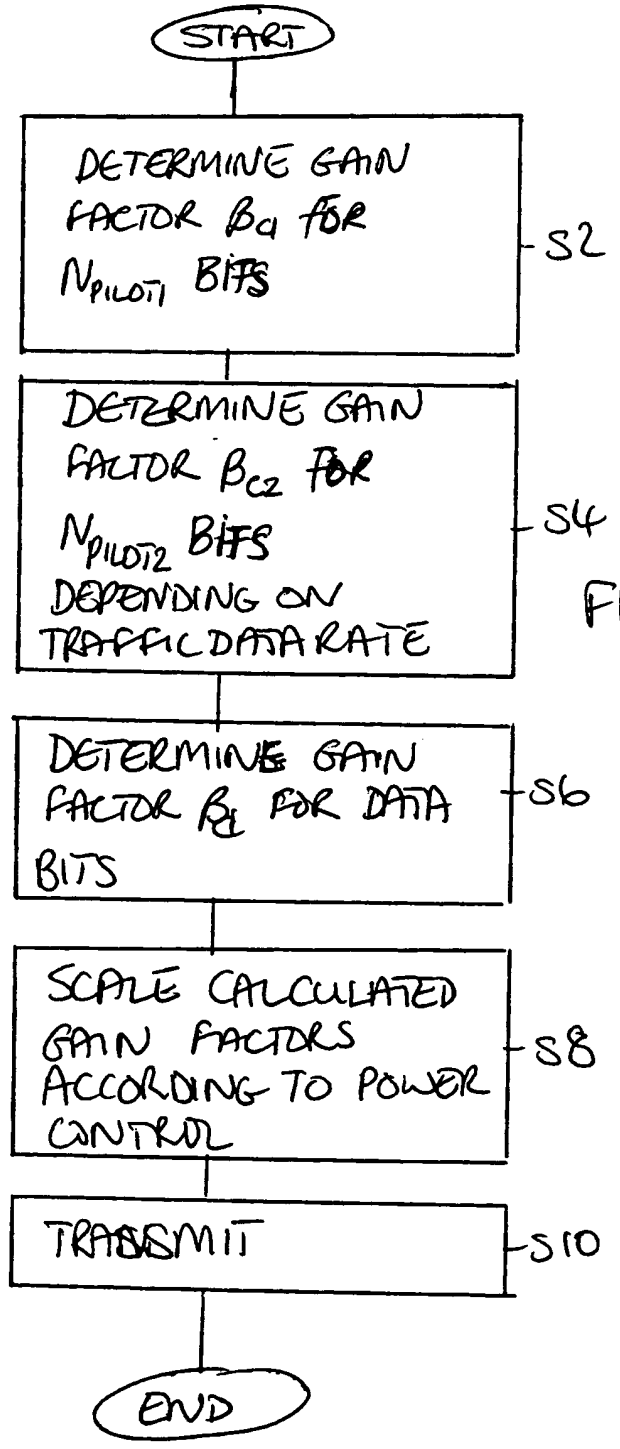

START
DETERMINE GAIN FACTOR β_{c1} FOR N_{PILOT1} BITS
S2
DETERMINE GAIN FACTOR β_{c2} FOR N_{PILOT2} BITS DEPENDING ON TRAFFIC DATA RATE
S4
DETERMINE GAIN FACTOR β_d FOR DATA BITS
S6
SCALE CALCULATED GAIN FACTORS ACCORDING TO POWER CONTROL
S8
TRANSMIT
S10
END

FIG 6

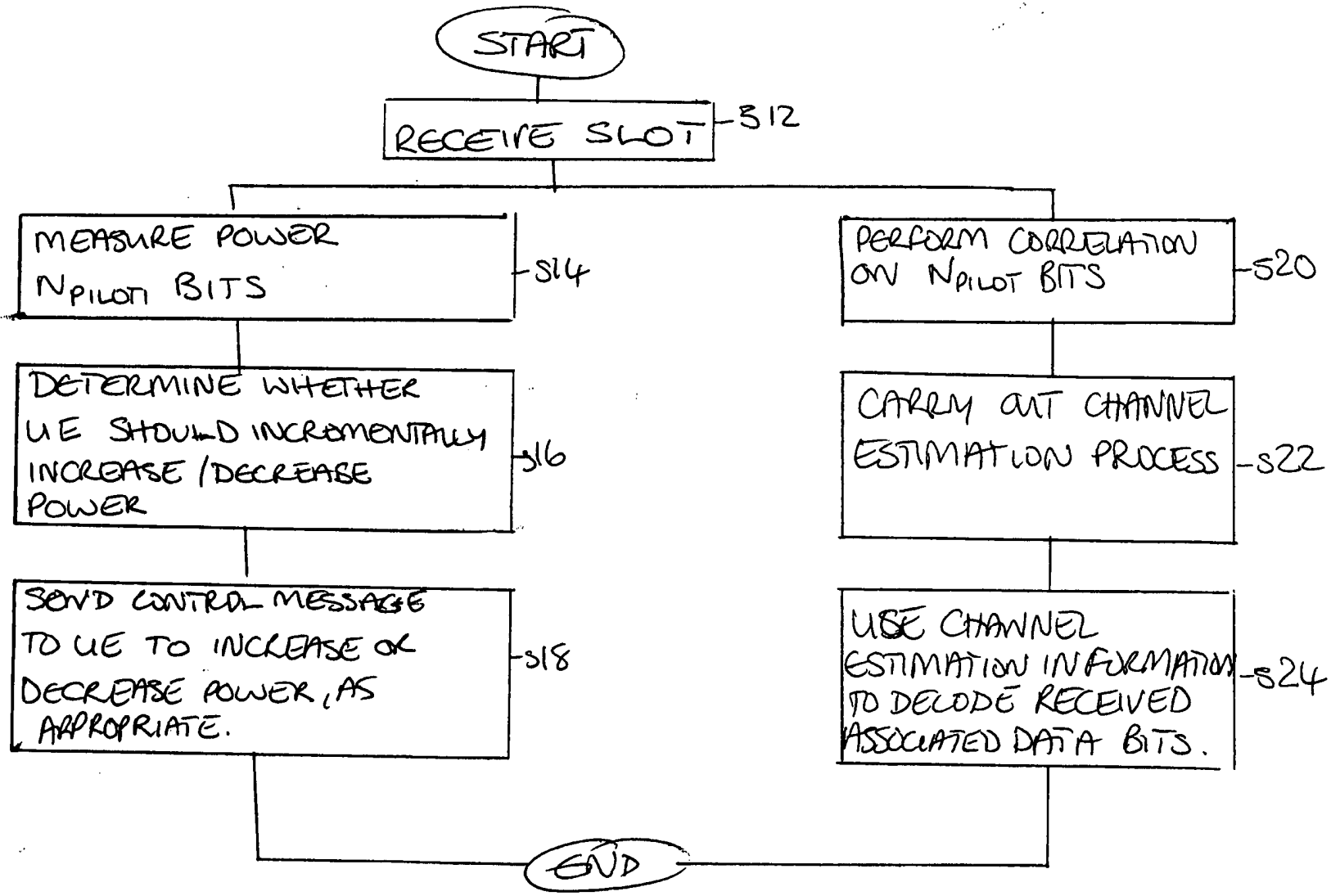

START
RECEIVE SLOT
S12
MEASURE POWER N_{PILOT} BITS
S14
DETERMINE WHETHER UE SHOULD INCREMENTALLY INCREASE/DECREASE POWER
S16
SEND CONTROL MESSAGE TO UE TO INCREASE OR DECREASE POWER, AS APPROPRIATE.
S18
PERFORM CORRELATION ON N_{PILOT} BITS
S20
CARRY OUT CHANNEL ESTIMATION PROCESS
S22
USE CHANNEL ESTIMATION INFORMATION TO DECODE RECEIVED ASSOCIATED DATA BITS.
S24
END

FIG7

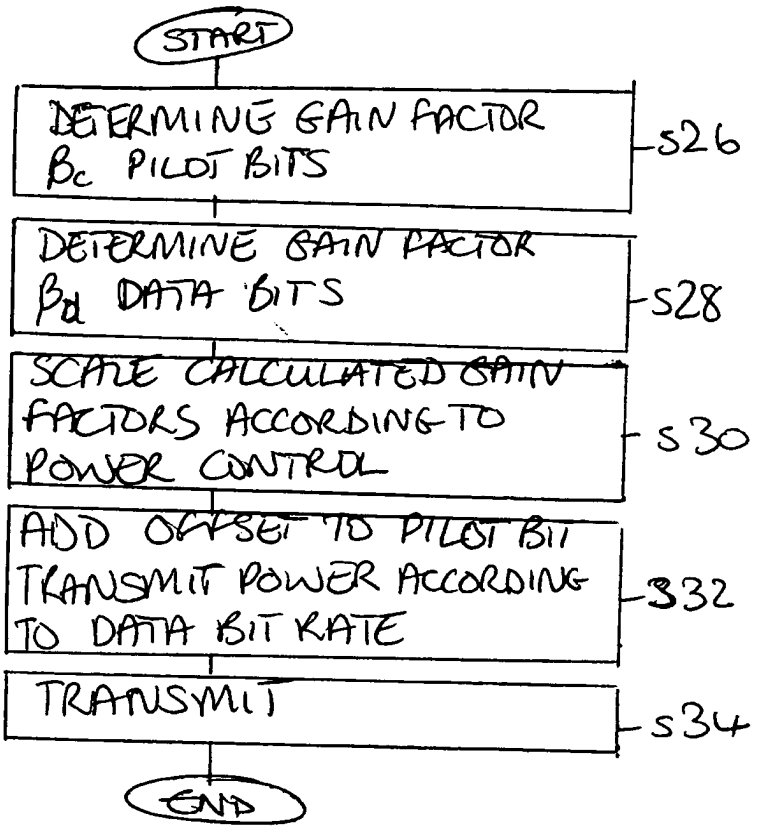

START
DETERMINING GAIN FACTOR β_c PILOT BITS
S26
DETERMINE GAIN FACTOR β_d DATA BITS
S28
SCALE CALCULATED GAIN FACTORS ACCORDING TO POWER CONTROL
S30
ADD OFFSET TO PILOT BIT TRANSMIT POWER ACCORDING TO DATA BIT RATE
S32
TRANSMIT
S34
END

FIG 9

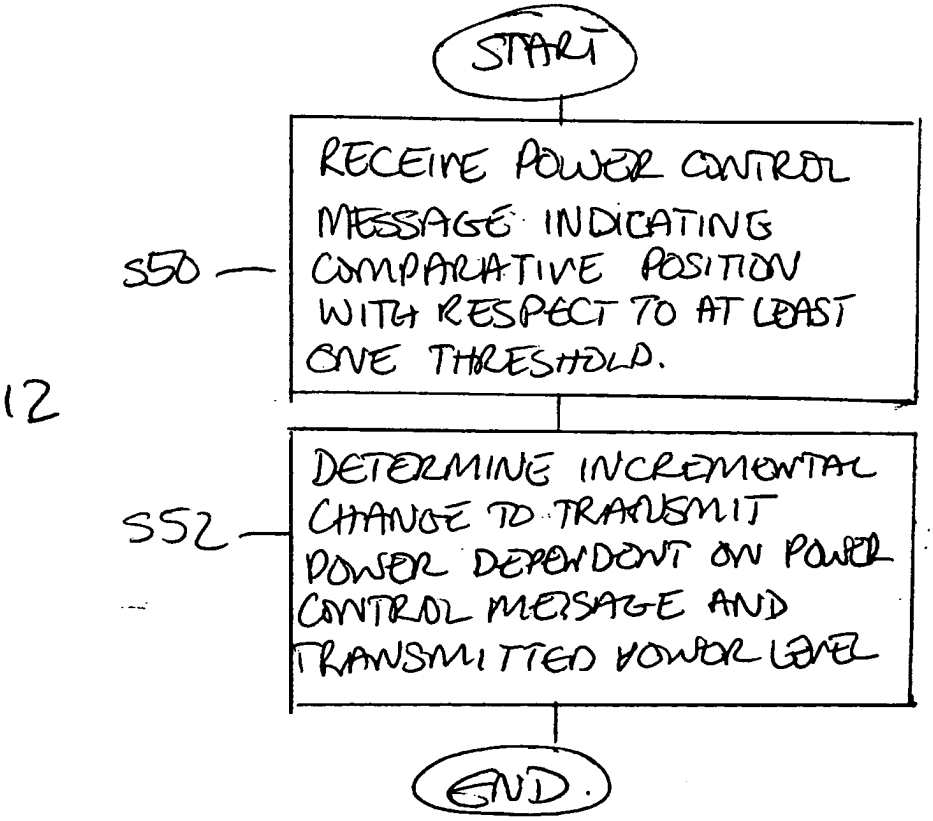
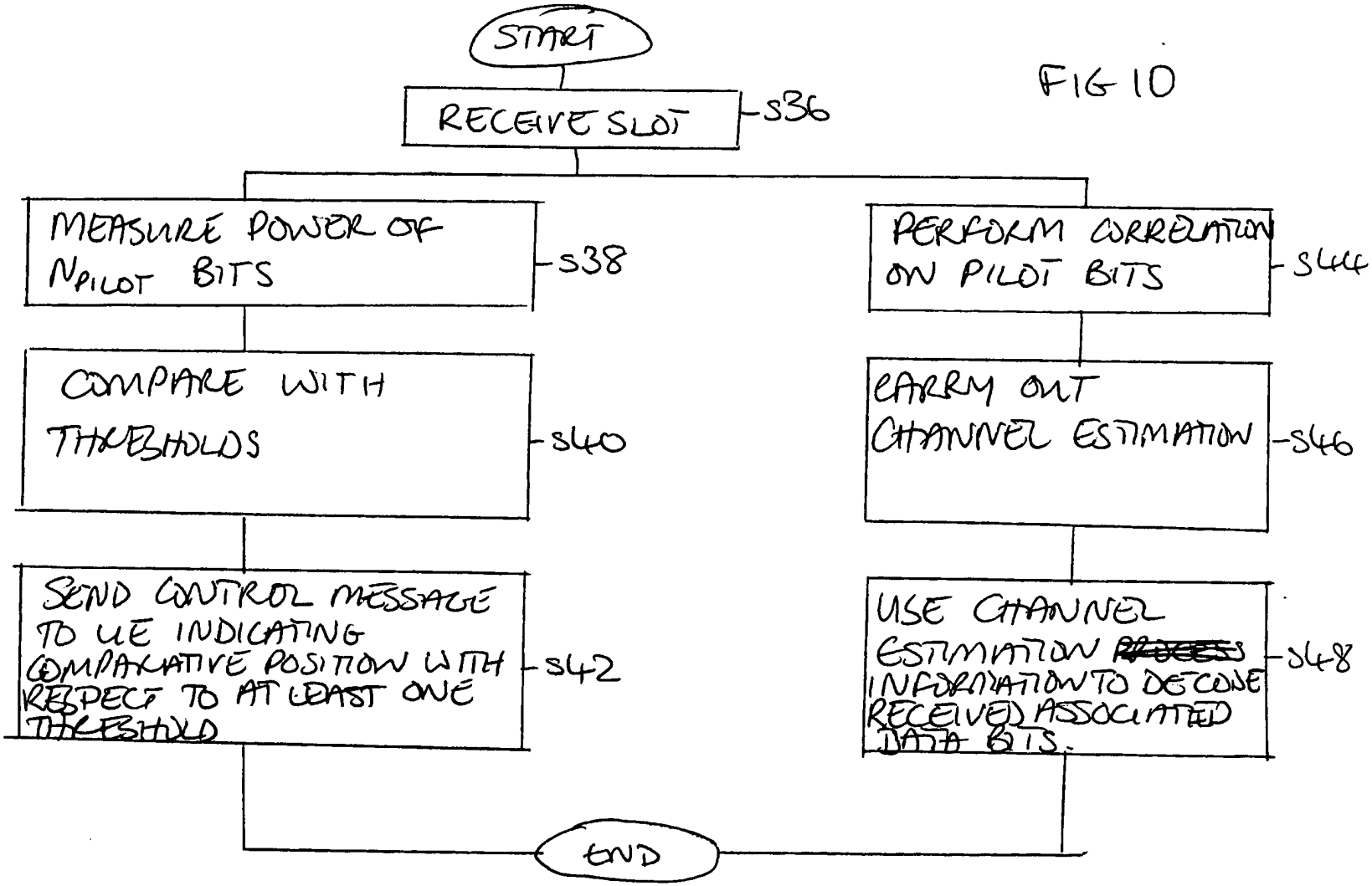

START
RECEIVE POWER CONTROL MESSAGE INDICATING COMPARATIVE POSITION WITH RESPECT TO AT LEAST ONE THRESHOLD.
S50
DETERMINE INCREMENTAL CHANGE TO TRANSMIT POWER DEPENDENT ON POWER CONTROL MESSAGE AND TRANSMITTED POWER LEVEL
S52
END

FIG 12

FIG 10


START
RECEIVE SLOT
S36
MEASURE POWER OF N_{PILOT} BITS
S38
COMPARE WITH THRESHOLDS
S40
SEND CONTROL MESSAGE TO UE INDICATING COMPARATIVE POSITION WITH RESPECT TO AT LEAST ONE THRESHOLD
S42
PERFORM CORRELATION ON PILOT BITS
S44
CARRY OUT CHANNEL ESTIMATION
S46
USE CHANNEL ESTIMATION PROCESS INFORMATION TO DECODE RECEIVED ASSOCIATED DATA BITS.
S48
END